SUBJ:
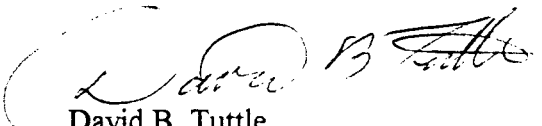## MAINTENANCE MANAGEMENT SYSTEM (MMS) SOFTWARE OPERATIONS AND MANAGEMENT

1. **PURPOSE**. This change transmits revised pages 1 through 6 and Appendix 2, MMS User Access Authorizations.

2. **DISTRIBUTION**. This order is distributed to the division level in Airway Facilities and the Office of Communications, Navigation, and Surveilance Systems in Washington; to the division level in the Engineering, Test, and Evaluation Service at the FAA Technical Center; to the division level at the FAA Logistics Center; to the branch level in the regional Airway Facilities divisions; and a standard distribution to all Airway Facilities field offices.

3. **EXPLANATION OF CHANGES**. With the realignment of Airway Facilities in January 1994, a portion of the System Management Service (ASM) became the NAS Operations organization. This change reflects the new organizational names and the realignment of responsibilities for MMS software operations and management and updates MMS user access authorization levels in appendix 2.

4. **DISPOSITION OF TRANSMITTAL**. After filing these revised pages, the change transmittal should be retained.

PAGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
1 thru 6	9/28/93	1 thru 6	2/14/95
Appendix 2	9/28/93	Appendix 2	2/14/95
1 and 2		1 and 2	2/14/95

David B. Tuttle
Acting Director, NAS Operations

ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

6000.46

9/28/93

(Page revised 2/14/9
by CHG 1)

MAINTENANCE MANAGEMENT SYSTEM (MMS) SOFTWARE
SUBJ: OPERATIONS AND MANAGEMENT

1. <u>PURPOSE</u>. This order establishes guidance and direction for the operation and maintenance of MMS software for Airway Facilities (AF). It addresses the need to standardize procedures for MMS access, operation, and maintenance and to establish areas of responsibility within MMS . . applications and data management throughout all phases of its implementation. This order describes and defines MMS functions and subsystems, data base structure, data flow, data management procedures and responsibilities, software management responsibilities, data base administration, and MMS security requirements. This order pertains to version A04 MMS, and refers to version R08 interim monitor and control software (IMCS). Refer to Appendix 1, Acronyms, for a list of acronyms used in this order.

* 2. <u>DISTRIBUTION</u>. This order is distributed to the division level in Airway Facilities and the Office of Communications, Navigation, and Surveillance Systems in Washington; to the division level in the Engineering, Test, and Evaluation Service at the FAA Technical Center; to the division level at the FAA Logistics Center; to the branch level in the regional Airway Facilities divisions; and a standard distribution to all Airway Facilities field offices.   *

3. <u>ACTION</u>. The use of FAA Form 6030-1, Facility Maintenance Log; FAA Form 6040-3, Facility and Service Outage Report; and FAA Form 6040-7, Line Performance Report, shall be suspended in all air route traffic control centers (ARTCC) and general National Airspace System (NAS) (GNAS) sectors where the use of full automated logging has been initiated. The requirements of this order shall supplement the general guidance of the current version of Order 6000.15, General Maintenance Handbook for Airway Facilities. All affected AF offices and units shall otherwise observe the provisions, guidance, and direction issued herein and in changes to this order.

4. <u>BACKGROUND</u>. MMS was created to automate and standardize the collection, retrieval, and reporting of maintenance data in order to streamline and standardize maintenance operations recordkeeping throughout AF. It provides a unified, automated technical and administrative support tool to facilitate logging, periodic maintenance, certification and scheduling, report generation, facility service and equipment profiles, electronic messaging, and other maintenance operations and administrative functions.

MMS operates in concert with IMCS on the maintenance processor subsystem (MPS). MMS is being deployed in phases. Phase I has been fully deployed with release 3. Phase II capabilities
* will be deployed with release 4 maintenance versions. MMS requirements are described in   *
FAA-E-2734(B) System Specification (Requirements) for the Remote Maintenance Monitoring System (RMMS) Maintenance Management System, and TI 6030.1, Users' Manual for the Maintenance Management System.

5. DEFINITIONS. MMS administrator refers to an individual assigned duties for MMS administration, including all subsystems of MMS at the GNAS sector. MPS administrator/MMS manager refers to an individual assigned duties for MPS administration, covering hardware, applications, interfaces, and data communications in the ARTCC, including in the ARTCC maintenance control center (AMCC) and related GNAS sector activities (e.g., remote monitoring subsystem (RMS) in NAS facilities) and GNAS MCC (GMCC).

6. MMS FUNCTIONS. MMS is a component of the RMMS. MMS provides automated information support to AF personnel in the performance of maintenance operations in the NAS. MMS provides for the collection, storage, and access to facility data for ARTCC and GNAS, regional offices, engineering field support offices, and Federal Aviation Administration (FAA) headquarters. MMS is a screen-oriented, function-key driven software tool for the management of maintenance and operation of NAS facilities and equipment. MMS provides a variety of functions supporting user needs in NAS maintenance operations. MMS performs these functions either through its own subsystems and data bases or through interfaces with other national FAA
* systems. MPS facilities that host MMS data bases are located at each ARTCC; the national MMS data base is hosted on the executive node (MPS) located at the FAA headquarters in Washington, D.C.   *

* 7. MMS MANAGEMENT RESPONSIBILITIES. Overall management functions and responsibilities related to MMS administration, management, and operations are shared among FAA organizations as described herein. All NAS Operations (AOP) organizations who represent users of MMS must coordinate changes in policy, procedures, and requirements with the MMS program office before implementing them on a national level. All AF organizations responsible for orders that document MMS usage are responsible for coordinating changes or updates to these orders with the MMS program office prior to the implementation of the order(s).

   a. AOP. AOP is responsible for the development of requirements and establishing policy and procedures to govern the MMS software operations and management activities. These responsibilities are shared among AOP divisions as described below.

      (1) NAS Operations Division, AOP-100. AOP-100 is responsible for establishing policy and procedures pertaining to development and integration of the National Maintenance Coordination Center (NMCC) and the Operations Control Center (OCC).

      (2) Operations Concepts, Planning, and Performance Division, AOP-200. AOP-200 manages the collection, integration, and distribution of AF operations data from data bases

residing on the existing MMS and future operations support information systems. AOP-200 is responsible for defining requirements and policy regarding the logging subsystem; selected facility, service, and equipment profile (FSEP) data files (FFA/FPF); outage subsystem resident on the executive node (FAA) only; FSEP data files (FEQ/FMO); and updating all MMS validation files except the short-name file. AOP-200 provides conflict resolution and user guidance in support of the national airspace performance reporting system (NAPRS), the NAS performance analysis system (NASPAS), and automated facility maintenance logs.

(3) Automated Operations Systems Division, AOP-300. AOP-300 establishes policy, procedures, and priorities for MPS executive node use by all organizational elements of FAA headquarters and field organizations. AOP-300 also provides direction to the operation of the national MPS network including deployment of hardware improvements, software upgrades, and implementation of additional capabilities. AOP-300 is responsible for defining requirements and policy regarding overall integration of functionality and requirements for MMS; serving as the AOP focal point for all issues concerning MMS; populating selected FSEP data files (FEQ/FMO); MMS implementation; coordinating AOP NAS program trouble reports (PTR) and hardware discrepancy reports (HDR) as presented by the OPI/OPR to AOS-30 for validation; prioritizing all validated PTR's with a working group consisting of OPR/OPI and field representatives; operation of the executive node MPS and MMS short name validation files; and furnishing the NMCC with all required support to fulfill their objectives. AOP-300 is responsible for operating the executive node MPS at FAA headquarters; ensuring the integrity of national data bases and developing national data files as described in paragraphs 9 and 10; developing maintenance automation operational concepts and requirements in support of the MMS; establishing overall MMS policy; providing user support in the operation of MMS; and validating MMS requirements.

b. Operational Support (AOS). AOS is responsible for operational support to the MMS/IMCS user. This includes the maintenance of the operational software/hardware, software deployment, communications and data distribution. The applicable AOS divisions share responsibilities associated with requirements and policy for the following MMS functionality.

(1) AOS-200, AOS-300, AOS-400 and AOS-500. All of these organizations are responsible for defining the data necessary to populate the MMS periodic maintenance and certification scheduler. They are also jointly responsible for performing the integration of current data into the MMS periodic maintenance and certification scheduler.

(2) Operational Support Staff, AOS-30. AOS-30 will define the content and utilization of NAS problem reporting (NPR) subsystem and the modification (MOD) subsystem.

(3) National Data Communications Systems Engineering Division, AOS-500. AOS-500 will establish and manage the configuration of the MMS/IMCS software applications and publish guidelines, notices, and other documents for field use. AOS-500 is responsible for conducting operational test and evaluation (OT&E) shakedown testing on all software/hardware that pertains to the MPS, GMCC, AMCC, MMS/IMCS, and maintenance automation system software (MASS). AOS-500 is responsible for the following as it pertains to the above named efforts:

(a) Preparing site program bulletins (SPB) and site technical bulletins (STB) for software delivery.

(b) Developing and deploying software patches via SPB after verification of a PTR.

(c) Deploying hardware modifications, fixes, and enhancements via the electronic equipmet modification (EEM) process.

(d) Validating and incorporating PTR's, hardware discrepancy reports (HDR), and NAS change proposals (NCP) into system hardware and software as required and appropriate.

c. IPT for Infrastructure, AND-100. AND-100 has overall esponsibility for the system engineering, hardware and software procurement, hardware configuration management, and RMMS implementation. These responsibilities include but are not limited to:

(1) Coordinating AF tasks with all appropriate offices for program support.

(2) Acquiring the necessary support for MMS system development.

(3) Providing periodic program management reports on MMS development status and activities to the field.

(4) Identifying all MMS requirements for hardware, terminals and microprocessors, and coordinating the requirements and deployment of this hardware as required.

(5) Collecting, validating, and identifying site-specific communications requirements to the Telecommunications Network Planning and Engineering Division, AOP-400, for establishment of the requisite communications capabilities to support national deployment of MMS.

(6) Coordinating the development and conduct of initial MMS training as part of the national deployment of MMS to ensure that proper documents are released 30 days prior to deployment.

d. Communication Infrastructure Division, ACW-300. ACW-300 is responsible for MMS/IMCS software evaluation and integration test planning and accomplishment.

e. Training Division, AFZ-100. AFZ-100 is responsible for defining and determining the requirements and policy for the content and utilization of the MMS Personnel, Certification and Training (PCT) subsystem. AFZ-100 is also responsible for ensuring that MMS user training is accomplished and is adequate to support MMS functions.

f. Workforce Planning and Development Division, AFZ-200. AFZ-200 is responsible for reviewing the staffing standard as MMS functionality is implemented and for defining the

requirements and policy associated with the data necessary for the validation of MMS FSEP validation files. This data is to be supplied to AOP-200 for inclusion in the quarterly release of MMS validation files by AOP-300. This data consists of revisions to the latest edition of Orders 1380.40 and 1375.4.

g. Supply Management Division, AML-600. AML-600 is responsible for defining the requirements and policy associated with the content and utilization of the MMS Test Equipment Inventory and Calibration (TEC) subsystem.

h. Regional AF Divisions. Each region will execute regional implementation of MMS in accordance with the latest edition of Order 1100.127, Airway Facilities Sector Configuration (RIS: AF 1100-1). This includes but is not be limited to:

(1) Coordinating overall MMS implementation within the region.

(2) Coordinating and verifying sector site preparation and equipment installation efforts.

(3) Ensuring that the MPS facility and equipment are acceptable and that the site is prepared to use MMS in support of its operational mission.

(4) Reviewing and evaluating the MMS functional capabilities which are required by the regional office to be incorporated into MMS.

(5) Ensuring that the regional communications requirements for MMS deployment are satisfied by supplying those requirements to NAS Operations, AOP-1.

(6) Arranging and coordinating all regional site preparation and equipment installation efforts.

(7) Maintaining the accuracy of appropriate MMS validation files (cost center and location identifier files) in accordance with the guidelines contained in this order.

(8) Coordinating PTR's, HDR's, and NCP's generated from within the region with national offices.

(9) Maintaining the accuracy of appropriate MMS files in accordance with the guidelines contained in paragraphs 9b(5), 10a(2)(a), and 10a(2)(b).

i. MPS Sectors. Managers, supervisors, administrators, and specialists will have access to all MMS functions required to perform their assigned tasks. The ARTCC sector manager shall designate an MMS administrator who shall be responsible while working in conjunction with the MPS administrator for:

(1) Installing all SPB's, as issued, for the proper functionality of MMS.

(2) Generating PTR's to identify application errors.

(3) Generating NCP's to identify application deficiencies.

(4) Coordinating site participation in the operational shakedown of MMS in accordance with regional and national guidelines.

(5) Coordinating MMS shutdowns with appropriate GNAS, ARTCC, and regional office personnel minimizing the downtime necessary.

(6) Managing MMS configuration for optimum performance.

(7) Coordinating the use and management of data in the MMS subsystems (e.g., logging files, facility, service, and equipment profile (FSEP) files, PCT files, etc.) for the MPS sector.

(8) Coordinating MMS user training.

(9) Coordinating performance of MMS data base management responsibilities as described in paragraph 9.

j. Non-MPS Sectors. Managers, supervisors, administrators, and specialists at non-MPS sectors and units will have access to all MMS functions required to perform their assigned tasks. The sector manager shall designate an MMS administrator, and through this function shall be responsible for:

(1) Coordinating site access to a designated MPS site in accordance with regional office guidance.

(2) Coordinating the placement, installation, and testing of microcomputers, printers, and telecommumications equipment.

(3) Coordinating site participation in the operational use of MMS in accordance with regional and national guidelines.

(4) Performing functions of MMS administration for the GNAS sectors.   *

8. MMS SECURITY. A remote tandem advanced command language (TACL) process is not recommended as secruity breeches are possible. If a remote TACL is necessary, the minimum requirement is that the command interpreter monitor (CMON) must be configured in accordance with all applicable directives. The desired operation of remote TACL is CMON with a dial-back modem. The TACL process normally should run in the local MPS only. It may be used by the MCC as an

alternative in case of primary terminal communications failure. If a remote TACL is necessary, the minimum requirement is that the CMON must be configured in accordance with all applicable directives as indicated in the users' manual. Access to the TACL process will be determined by regional guidance and program requirements, and managed by the MPS administrator. MMS security is accomplished through the use of data files, the establishment and modification of passwords, and through authorizations as described herein.

    a. Data Files. MMS contains three active data files for security access and control as described below.

       (1) MMS Security Access (ADMACC) File. The ADMACC file records default user values and logon identification (ID), passwords, and access levels for each MMS user.

       (2) Access Log (MMSLG) File. The MMSLG file automatically records users' logon ID, access level, date and time, and access terminal for all access attempts permitted or denied.

       (3) System Control Parameters (ADMSPM) File. The ADMSPM file records system/sector control parameters for MMS, which are entered through the system control parameters function. Each sector sharing an MPS has its own system parameter record.

    b. Establishment and Modification of Passwords. First-time MMS users will be issued a generic password (LOGON). Passwords are to be changed upon initial logon and thereafter must be changed every 30 days.

    c. Authorizations. Authorization to access MMS subsystems is granted by function and affected subsystems as defined in Appendix 2, MMS User Access Authorizations. MPS administrators are responsible for assigning appropriate access authorizations to sector and regional office MMS administrators who in turn are responsible for assigning appropriate access authorizations to users according to appendix 2. Deviation from the levels specified in appendix 2 is at the sector manager's (or branch manager's in the regional office) discretion for access to subsystem data maintained by the sector or regional office (e.g., of the precommissioned facility file containing regional office data). Sector and regional office management and staff must be aware that sector and region data maintained in MMS data bases is vulnerable to corruption due to errors by untrained personnel. The MPS administrator's user levels shall not be altered due to system design and operational requirements. Additional guidance may be obtained from the System Administrator's Guide for the MMS which contains more detail on access levels.

9. MMS DATA BASE MANAGEMENT. MMS maintains both reference tables and active data files. The reference files are used for validating data by entering the user's default values into log entries and linking together information for reports. The active data files maintain information about facilities, precommissioned facilities, services and equipment, as well as data used to support overall MMS functions. Subsystem data requirements identifying the

APPENDIX 2. MMS USER ACCESS AUTHORIZATIONS

Access to MMS shall be authorized to users in accordance with security access levels specified below.

FUNCTION	FSE ACCESS LEVELS
General Users	0 - 4
Supervisor	1 - 4
SFO Data Base Administrators	3 - 4
Sector Data Base Administrators	5
Regional Office Personnel	6
MPS Administrators	7

FUNCTION	ADM ACCESS LEVELS
* General Users	0 - 1
Supervisors	1
Sector Data Base Administrators	2
MMS Administrators	3
MPS Administrators/MCC Specialists*	4 *

FUNCTION	RGD ACCESS LEVELS
* General Users	0 - 1
Supervisors	1
MMS Administrators	2
MPS Administrators/MCC Specialists*	3 *

FUNCTION	PMS ACCESS LEVELS
General Users	0
Supervisors	1 - 2
MMS Administrators	3
MPS Administrators	4

FUNCTION	LOG ACCESS LEVELS
AT Personnel and others as described in Order 6000.15	0
General Users	1 - 2
MPS/MMS Administrators/MCC Specialists*	1 - 2

* MCC Specialist when functionally responsible beyond sector boundaries.

APPENDIX 2. MMS USER ACCESS AUTHORIZATIONS (CONTINUED)

FUNCTION	EMA ACCESS LEVELS
General Users	0 - 1
Sector Managers and Designees	1
MPS/MMS Administrators	1

FUNCTION	MCS ACCESS LEVELS
No Requirement to Access	0
General Users	1
* AMCC/GMCC General Users	2
MPS Administrators	2
MMS Managers	2 *

FUNCTION	TEC ACCESS LEVELS
No Requirement to Access	0
General Users	1 - 2
General Supply Specialist	3
MPS/MMS Administrators	3

FUNCTION	PCT ACCESS LEVELS
AT Personnel and others as described in Order 6000.15	0
General Users - Technicians	1
Supervisors - First Level	2
Sector Staff Level - AMPS, OA, PDS	3
Sector Staff/Sector Manager Delegate	4
Sector Manager Designee	5
MMS Administrators	5
Sector Managers	6
MPS Administrators/MCC Specialists*	6

FUNCTION	NPR ACCESS LEVELS
General Users	0 - 1
Technician Level	2
* Sector Managers, MMS Administrators (All MPS Facilities)	3
National Field Support Group (AOS-30)	4
MMS Administrators/FAA Node Only	4 *